Marine Life Protection Act Initiative

Draft SAT Evaluation of Water and Sediment Quality at Palos Verdes Shelf

Presentation to the MLPA Master Plan Science Advisory Team

June 18, 2009 • Los Angeles

Dominic Gregorio • SAT Water Quality Work Group and California State Water Resources Control Board

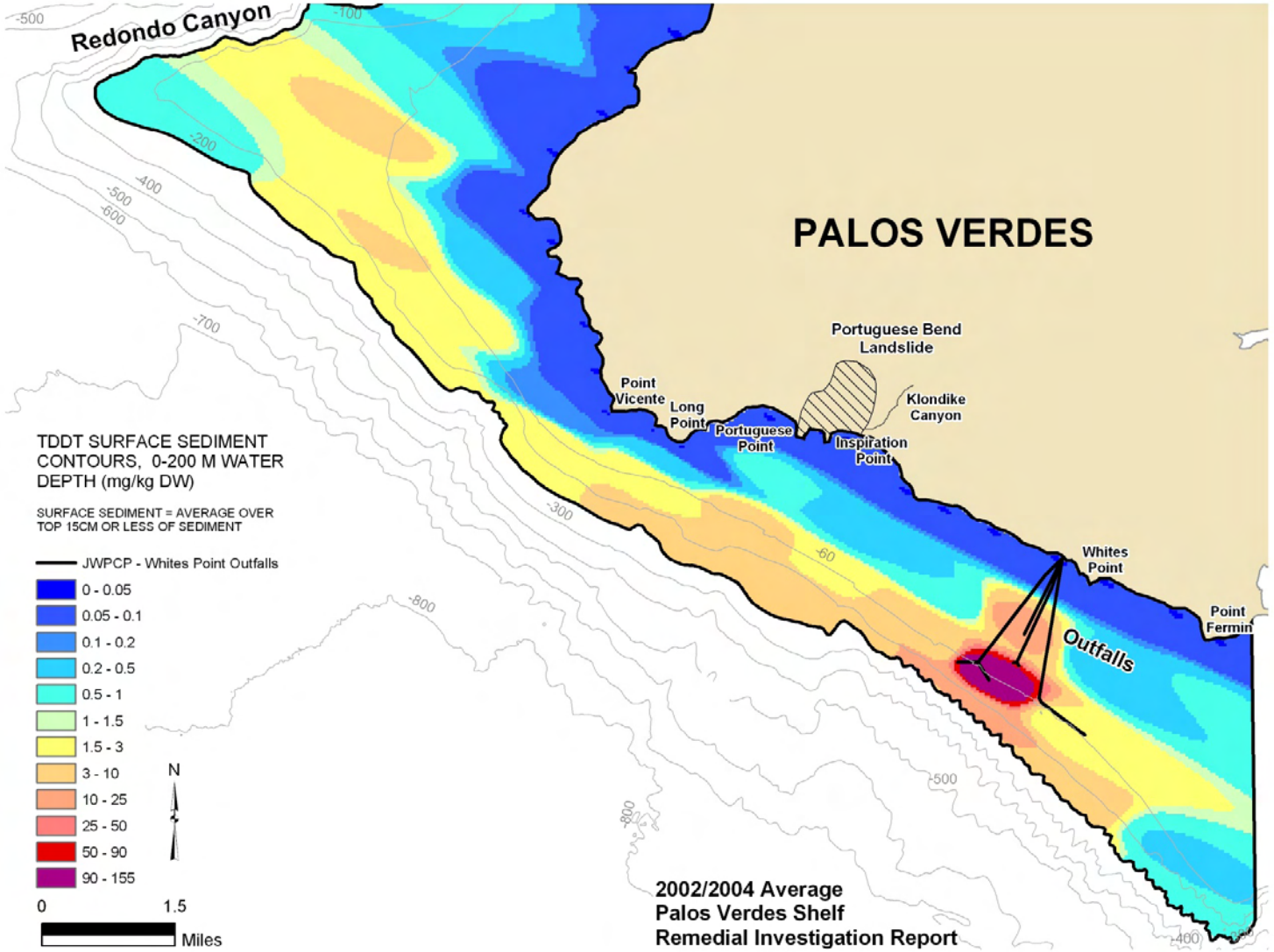
Background

- MLPA South Coast Regional Stakeholder Group (SCRSG) and members of the public requested further information on water quality issues on the Palos Verdes (PV) Shelf
  - Superfund Site at White Point outfall area
  - Portuguese Bend landslide

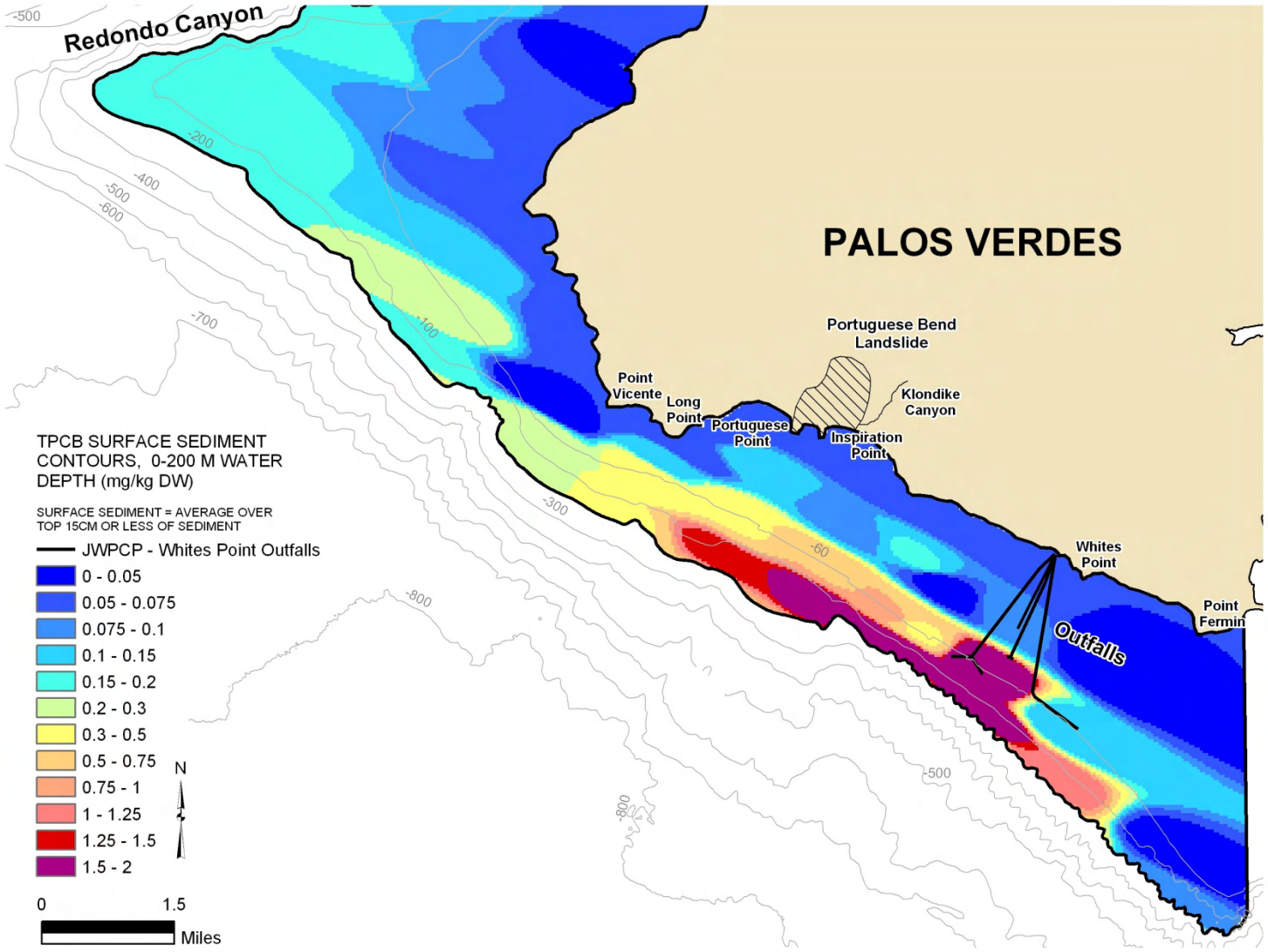
PV Shelf Superfund Site

- Montrose Chemical Corporation discharges (DDT) and other industrial discharges (PCB, heavy metals) released contaminated wastewater through Los Angeles County Sanitation District's outfall, White Point
- Nearly 110 metric tons of DDT and 10 metric tons of PCB in sediment
- EPA established the superfund site in 1997
- EPA has ongoing activity in the area of site remediation

PV Shelf Superfund Site



PV Shelf Superfund Site



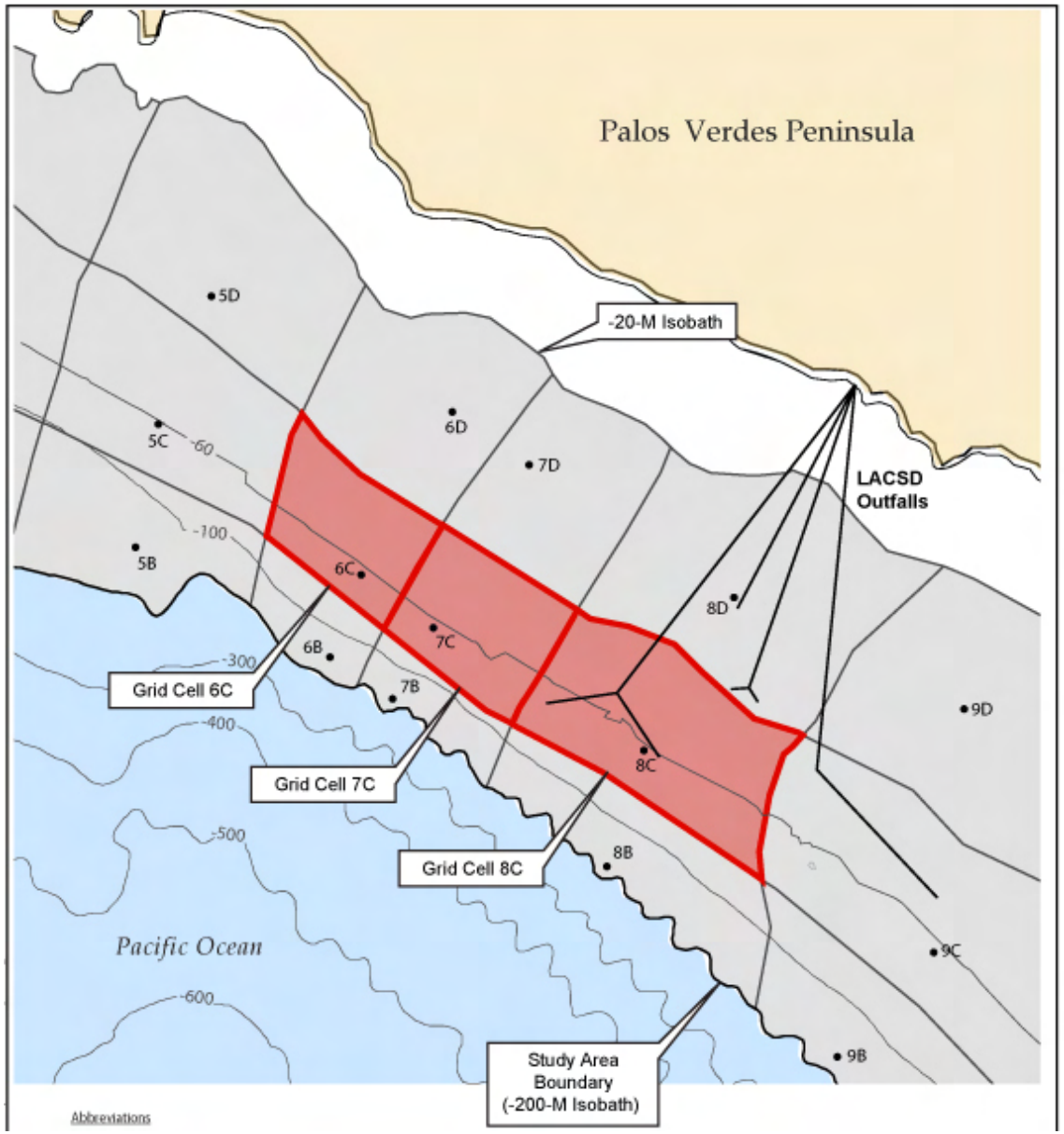
PV Shelf Superfund Site

- Largest impacts to marine organisms occurs by the outfall and along the 200 meter contour line
  - Ø Community structure altered/loss of biodiversity to benthic organisms
  - Ø Toxicity studies show growth and reproduction is still impacting benthic organisms
  - Ø EPA's ecological risk assessment (ERA) indicates that the highest biological risk to fish and invertebrates occurs nearest the outfalls. Nesting birds in the areas are at the highest risk and seals and sea lion pups are also at risk.
  - Ø White croaker, sandabs and kelp bass on the PV Shelf generally exceed the DDT "No Observed Effects Concentration."

PV Shelf Superfund Site

- EPA Feasibility Study
  - Ø Actions have been proposed to remediate contaminated site
  - Ø Two capping alternatives (clean sand)
    - Preferred alternative would cap an area inside to grid 8C
  - Ø If chosen, capping would begin in 2011

PV Shelf Superfund Site



Portuguese Bend Landslide

- Portuguese Bend landslide occupies a1.06 km^2 portion of the PV Peninsula
- Sediment plume has been visible since 1956
- Plume extends mostly from Portuguese Point to White Point although sometimes it runs north to Long Point

Photo taken sometime in the 1980s

Portuguese Bend Landslide

- Sedimentation/turbidity:
  - ØBuries reefs
  - ØReduces kelp recruitment
  - ØHas created large scale changes in macrophyte composition
  - ØHas reduced habitat value (based on fish assemblage)

Example of buried reef at Bunker Point, October 22, 2008

Portuguese Bend Landslide

- Largest impacts occur in the Portuguese Bend Cove
- Dramatic impacts occur from Bunker Point to White Point

Example of buried reef at White Point, June 3, 2009

Guidance for Both Areas